

MISCELLANEOUS PAPERS

Centre for Entomological Studies Ankara

No 183

21 February 2019

ISSN 1015-8235

<http://zoobank.org/References/C748DF54-AECA-4A79-AC0F-4BF64675439A>

The Pistachio Fruit Hull Borer Moth, a new species and pest for the Lepidoptera fauna of North Pakistan

Muhabbet Kemal¹ Sibel Kızıldağ Ahmet Ömer Koçak

Abstract: The Pistachio Fruit Hull Borer Moth, a new species and pest for the Lepidoptera fauna of North Pakistan. *Misc. Pap.* 183: 1-4, 6 figs., 1 map.

The present paper deals with the first faunistic record of *Arimania komaroffi* (Pyralidae) in North Pakistan. Its identity, distribution, bionomy, and pest status are reported. Male genitalia, tympanal organ are prepared and compared. Genitalic preparats are illustrated from SE Turkey and N Pakistan for the first time.

Key words: *Arimania komaroffi*, Pyralidae, Lepidoptera, fauna, pest, Pakistan.

Salebria komaroffi was described by Ragonot (1888: 18) from “Transcaucasie”. *Nephoteryx diplocapna* was described from Northern Iraq (Rowanduz, Shaqlawa, Diana) by Meyrick (1937: 68). The subspecies *amanella* was described by Zerny [in] Osthelder (1935: 87) from South Turkey “Yüksek Dagħ” from Kahramanmaraş Province. All these names have been synonymized by Amsel (1949: 292). Later Amsel (1954: 289) established the genus *Arimania* for the type-species *Salebria komaroffi*. This name combination is currently used. However, Mehrnejad & Speidel (2011) commented *amanella* that can be potentially be used for a geographical subspecies, due to its smaller size, pure grey ground colour of the forewing. Distribution of this species is also given by these authors as “Armenia, Iraq, Iran and Turkey”². They confirmed *Arimania komaroffi* as a serious pest on the *Pistachio* trees in Iran, and studied larval and adult biology, behaviour, etc.

During the expedition of the last author to northern Pakistan in 1987, a male specimen of *Arimania komaroffi* was collected from Chilas³ at the light trap. After comparing external morphology, male genitalia of the specimens from Turkey and Pakistan, identification of this species, and evaluation faunistically, it is understood that this species is new for the fauna of Pakistan (Koçak & Kemal, 2014; 2015b). Similarly, this species is also a new pest for Pakistani fauna.

Taxonomic position of *Arimania* Amsel is given by Roesler (1968). Externally, the antennal knob in the male, internally sclerotized ductus bursae in the female are characteristic for the subtribe *Phycitina* of the family *Pyralidae*.

¹ Dr Muhabbet Kemal & Dr Sibel Kızıldağ - Van Yüzüncü Yıl University, Faculty of Science, Dept. of Biology, Campus, Van / Turkey.
e-mails: muhabbet_kemal@yahoo.com.tr - sibelkizildag@vyu.edu.tr
Prof. em Dr Ahmet Ömer Koçak, c/o Yüzüncü Yıl University, Faculty of Science, Dept. of Biology., Van / Turkey.
e-mail: cesa_tr@yahoo.com.tr

² This species is also known from Algeria (Rothschild, 1913; Koçak & Kemal, 2015a-b).

³ Chilas is a small town in Autonomous Gilgit district of Pakistan.

MtCOI barcoding of this species has not been prepared by anybody so far. The populations of *Arimania komaroffi* from SE Turkey and North Pakistan will also be examined from this standpoint.

***Arimania komaroffi* (Ragonot,1888)**

(Figs. 1-6, Map 1)

Synonyms: *komaroffi* Ragonot,1888; *amanella* Zerny,1935; *diplocapna* Meyrick,1937

Original reference: *Salebria komaroffi* Ragonot,1888, *Nouveaux genres et espèces de Phycitidae et des Galleriidae*: 18. Type(s): "Transcaucasie".

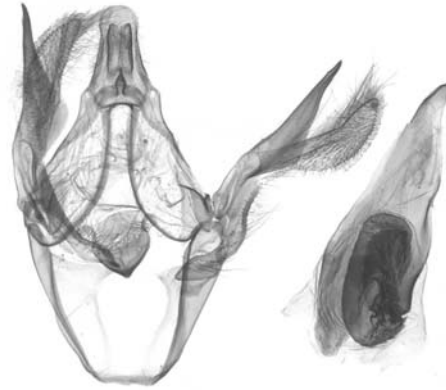
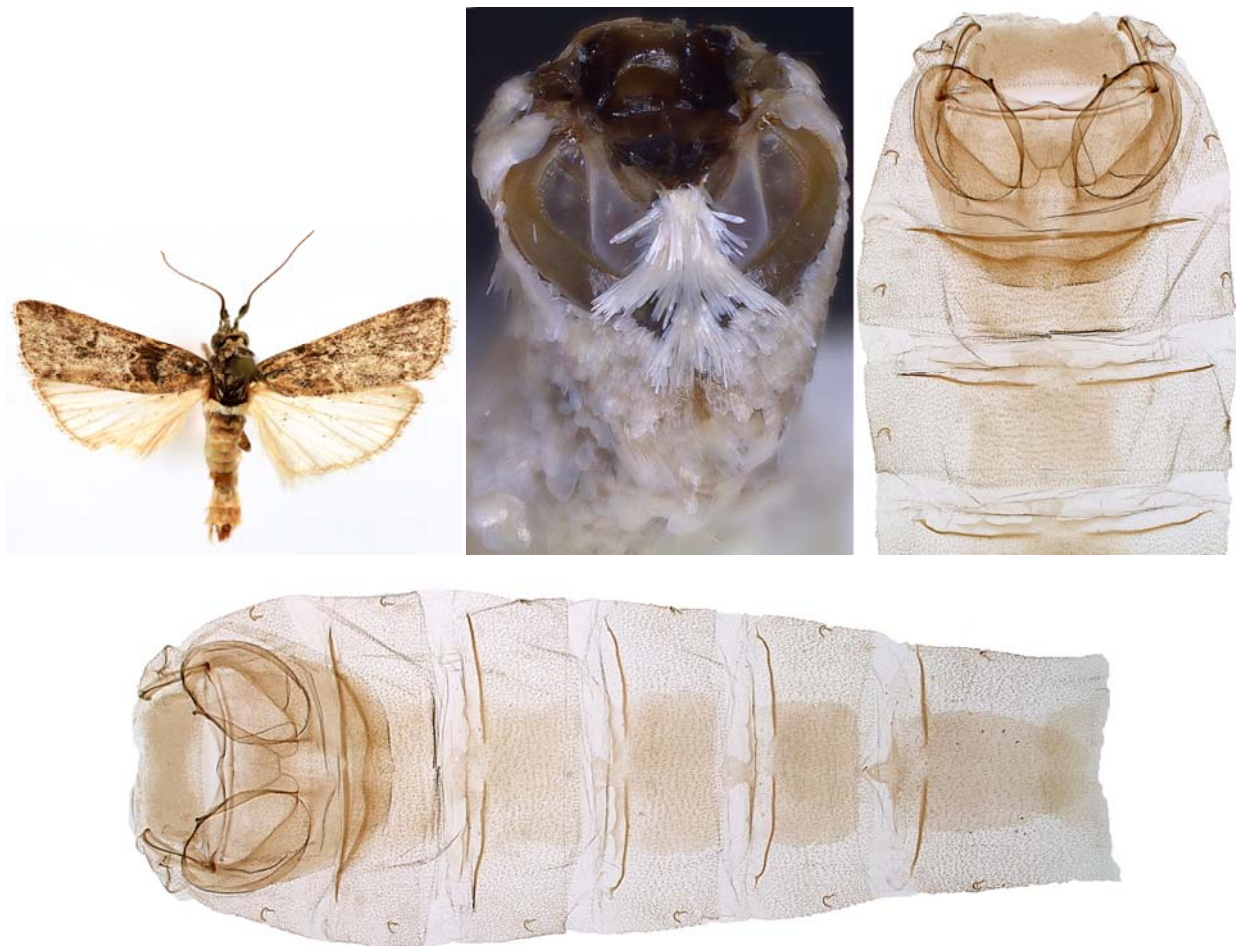
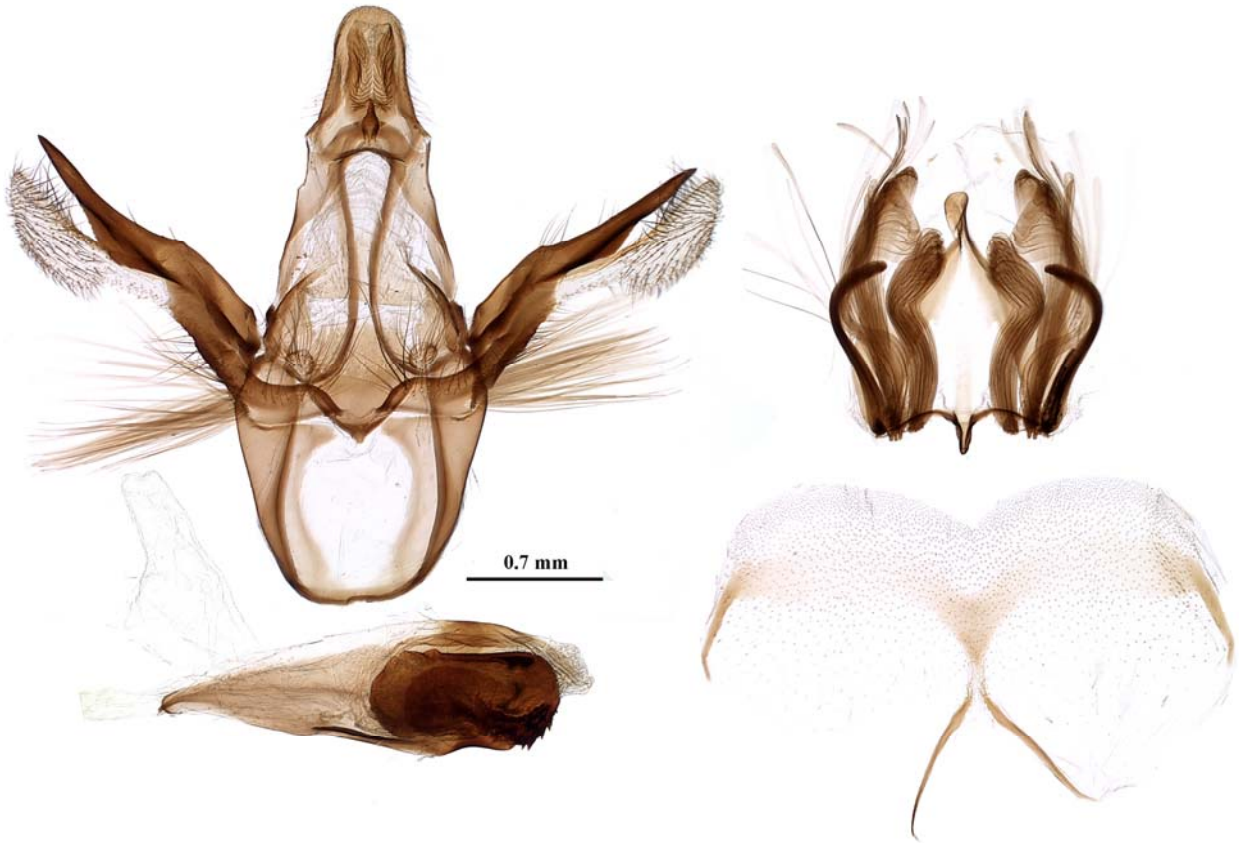


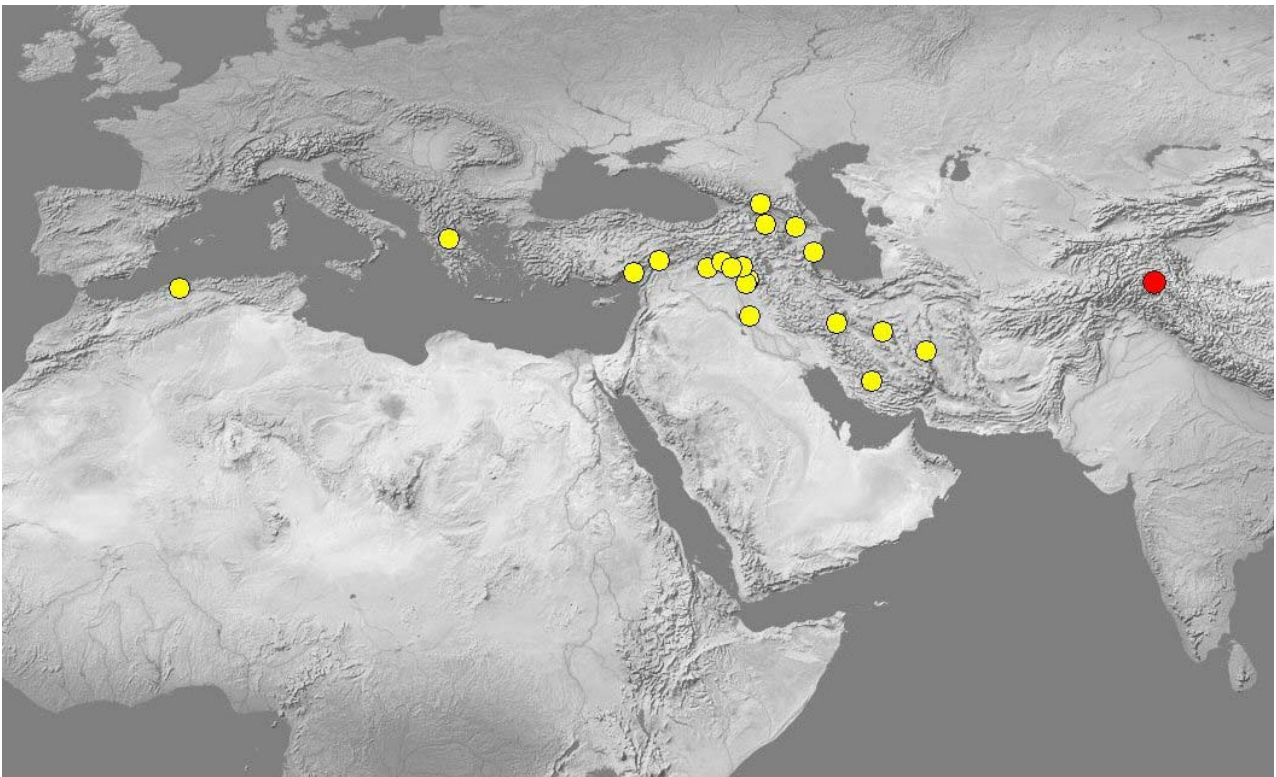
Fig. 1 – Male genitalia of *Arimania komaroffi* (GP1229). SE Turkey, Şırnak Prov., Uludere, A.Koçak,1988 (Cesa)



Figs. 2 -4 – Upperside of male *Arimania komaroffi* (top, left), and tympanal organs (before & after preparation) (top, right), abdominal skin (bottom) GP3061♂. N. Pakistan, Chilas, M. Kemal (Cesa)



Figs. 5, 6 – Male genitalia, terminal abdominal segment and coremata of *Arimania komaroffi* (GP3061). N. Pakistan, Chilas, M. Kemal (Cesa)



Map 1 – Distribution of *Arimania komaroffi*. Red circle denotes new record in Pakistan (Cesa)

Range (as codes): DZ Onç IR Fa Es Ke Yz IQ Rwx Brs Dia Shq Ssa GR TR Cc AZ Len AM PK Gg Cls 01 30 46
47 56 73 01K 30B 30Bt1 30Bz 30D 30Df 47D 56F 56Fb 73A 73Ad1 73Ad2 73C 73Ce

Range: Algeria (Oued Nça), Greece, Turkey (Adana, Hakkari, Kahramanmaraş, Mardin, Siirt, Şırnak), Northern Iraq (Rowanduz, Shaqlawa, Diana), Iran (Fars, Esfahan, Kerman, Yazd), Azerbaidjan (Lenkoran), Armenia, Pakistan (Chilas) [present record].

Bionomy: Larva on *Quercus*, *Fraxinus* from Iran (Wiltshire, 1948). The species as pest was reported from Iran on *Pistacia vera*, *Pistacia khinjuk* (Samet, 1985; Mehrnejad & Speidel, 2011).

Adult phenology: 05-09.

Material studied: **N Pakistan**, Gilgit (Gg), Chilas 1200m (Cls), *Artemisia* steppe with shrubs on rocky areas, 14.vii.1987, light trap, A.Koçak leg., 1♂ (GP3061), 1♀. - **SE Turkey**, Şırnak Prov., Uludere 1200m (73Ce), vii.1972?, leg. A.Koçak, 1♂ (GP1229). - Siirt Prov., Şirvan, Maden kvş. 965m (56Fb), 29.vi.2013, M. Kemal & A.Koçak leg., 3 ex. - Same province, Şirvan, Maden kvş. 965m, 31.v.2013, M. Kemal & A.Koçak leg., 1♂. - Şırnak Prov., Beytüşşebap, Öküzmağarası 1250m (73Ad1), 15.viii.2013, M. Kemal & A.Koçak leg. 1♀. - Hakkari Prov., Yüksekova, Dağlıca 1520m (30Df), 24.vi.2017, H.Uçak leg., 1ex. - Dağlıca 2085m, 22.vi.2017, H.Uçak leg., 1ex. - Dağlıca 1480m, 21.vii.2017, H.Uçak leg., 2 ex. - Hakkari Prov., Zap valley, Sulphur valley 1570m (30Bt1), 8.vii.2018 1♀ (all in coll. Cesa).

Genitalia Prep. no: GP1229♂ (SE Turkey, Şırnak Prov.), GP3061♂ (North Pakistan, Chilas).

References

- Amsel, H.G.**, 1949. On the Microlepidoptera collected by E. P. Wiltshire in Irak and Iran. *Bull. Soc. Fouad Ier Ent.* 33: 271-351.
- Amsel, H.G.**, 1954. Die Microlepidopteren der Brandt'schen Iran-Ausbeute. 4. Teil. *Arkiv Zool.* (2) 6 (16): 255-326.
- Koçak, A. Ö. & M. Kemal**, 2014. Lepidoptera of Pakistan based upon the Info-system of the Cesa II. Preliminary annotated checklist of the species recorded in Pakistan. *Cesa News* 96: 1-160, 12 plates.
- Koçak, A. Ö. & M. Kemal**, 2015a. Annotated lists on the Lepidoptera of Algeria, based upon the Info-system of the Cesa. *Priamus* (Suppl.) 34: 1-794, 436 maps.
- Koçak, A. Ö. & M. Kemal**, 2015b. Annotated list of the lepidopterological taxa in the info-system of the Cesa - Part I. *Memoirs* 7: 1-4792, 1 Tab.
- Mehrnejad, M.R. & W. Speidel**, 2011. The Pistachio Fruit Hull Borer Moth *Arimania komaroffi* Ragonot, 1888 (Lepidoptera, Pyralidae). *Entomofauna* 32 (2): 17-28, 3 pls.
- Meyrick, E.**, 1937. *Exotic Microlepidoptera* vol. 5. Malborough.
- Osthelder, L.**, 1935. Lepidopteren-Fauna von Marasch in türkisch Nordsyrien (Fortsetzung). Pyralidae. *Mitt. münch. Ent. Ges.* 24 (1934): 73-104.
- Ragonot, E. L.**, 1888. *Nouveaux genres et espèces de Phycitidae et des Galleriidae*, 52pp. Paris.
- Roesler, U.**, 1968. Phycitinen-Studien IV (Lep., Pyralidae). *Ent. Z., Frankf. am Main* 78: 225-239.
- Rothschild, W.**, 1913. VII. Lepidoptera, [in] Hartert, E., Expedition to the Central Western Sahara. *Novit. zool.* 20: 109-143, 469.
- Samet, K.**, 1985. The life cycle of *Arimania komaroffi* (Ragonot, 1893) (Lepidoptera, Pyralidae), a new pest of *Pistacia vera* in Iran. *Entomologist's Gaz.* 36: 113-115.
- Wiltshire, E.P.**, 1948. Early stages of Palearctic Lepidoptera, IX. *Entomologist's Rec. J. Var.* 60 (1): 1-3.

MISCELLANEOUS PAPERS**ISSN 1015-8235**

Miscellaneous Papers is a peer reviewed serial of the Centre for Entomological Studies Ankara, established in **1989**. It appears at irregular interval in a year, as PDF format and includes original articles of the research workers of the Centre, regarding on various subjects on Entomology (taxonomy, nomenclature, checklist, fauna, biodiversity, distribution, biogeography, ecology, insect-plant interactions, bionomy, and behaviour).

The CESA is a non-profit group, no royalties will be paid to authors of contributions. Papers accepted become the copyright of the related serial.

Miscellaneous Papers is currently archived online at "Internet Archive", in accordance with the publication rules of the ICZN. It is an open-access serial, distributed under the terms of the "*Creative Commons Attribution License*", which permits free use, and distribution in any medium, provided the original author(s) and source are credited.

Centre for Entomological Studies Ankara



(A scientific Consortium)

(co-operation of research workers for pure-scientific, not commercial purpose)

Web Page of the Cesa: <http://www.cesa-tr.org/>

Scientific Serials: Priamus & Priamus Supplement (print and online versions) (ISSN 1015-8243)⁴, Miscellaneous Papers (print and online versions) (ISSN 1015-8235)⁵, Memoirs (print and online versions) (ISSN-8227)⁶ DVD Films⁷, Iconographia Insectorum⁸ (online), Cesa Publications on African Lepidoptera (online)⁹, Cesa News (online)¹⁰, Cesa Books (online)¹¹

Owners / Sahipleri - Editors / Yayıncılar: Prof. em Dr Ahmet Ömer Koçak (c/o Van Yüzyüncü Yıl University, Van, Turkey), Asst. Prof. Dr Muhabbet Kemal Koçak (c/o Van Yüzyüncü Yıl University, Van, Turkey).

Editorial Board of all Scientific Serials of the CESA / Bütün Bilimsel Yayınların Yayın Kurulu: Insecta, taxonomy, nomenclature, ecology, faunistics: Prof. em Dr Ahmet Ömer Koçak (c/o Van Yüzyüncü Yıl Üniversitesi, Turkey), Asst. Prof. Dr Muhabbet Kemal Koçak (Van Yüzyüncü Yıl University, Turkey).

Chief referees of all Scientific Serials of the CESA: Prof. em Dr Ahmet Ömer Koçak & Asst. Prof. Dr Muhabbet Kemal Koçak: Insecta, taxonomy, nomenclature, fauna, ecology, catalogues, checklists of the Old World.

Expert referees according to the subject areas: Dr Peter Huemer (Austria) and Dr. Ole Karsholt (Denmark): Gelechioidea, and some other Microlepidoptera groups in Palaearctic (Lepidoptera). Mag. Peter Buchner (Austria): Depressariidae (Lepidoptera). Dr J. B. Heppner (U.S.A.): Microlepidoptera of Nearctic and Neotropical. Dr G. Baldizzone (Italy): Coleophoridae (Lepidoptera). Dr V. Korneyev (Ukraine): Tephritidae, Pyrgotidae, Ulidiidae (Diptera). Prof. Dr Y.G.Verves (Ukraine): Sarcophagidae (Diptera). Dr Daniel Burekhardt (Switzerland): Psyllidae (Homoptera). Prof. Dr E. Heiss (Austria): Hemiptera. Dr R. Ehrmann (Germany): Mantodea. Prof. Dr Mustafa Ünal (Bolu, Turkey): Orthoptera. Prof. Dr Hüseyin Özdikmen (Turkey): Coleoptera. Prof. Dr Suat Kıyak (Turkey): Hemiptera.

Plant taxonomy, flora and vegetation: Assoc. Prof. Dr Murat Ünal, Asst. Prof. Dr Mesut Pinar, (Yüzyüncü Yıl University, Van, Turkey).

Molecular studies: Asst. Prof. Dr Sibel Kızıldağ (Van Yüzyüncü Yıl University, Van, Turkey).

Editorial policy: The submitted manuscript is evaluated by the Chief Editor and Referee. In case of need, the manuscript is sent to expert referees according to the subject areas.

ALL RIGHTS RESERVED

Correspondences should be addressed to: Prof. em Dr Ahmet Ömer Koçak, c/o Yüzyüncü Yıl University, Fen Fakültesi, Biyoloji Bölümü, Kampus, Van / Turkey. - e-mail: cesa_tr@yahoo.com.tr

All the serials of the Cesa are archived regularly by the Internet Archive (300 Funston Ave., San Francisco, CA 94118, U.S.A.), in accordance with the rules of the International Codes of Zoological Nomenclature (ICZN)

<https://archive.org/>

also recorded regularly by the Zoological Record, Thomson Reuters, Enterprise House, Innovation Way, Heslington, York, YO10 5NQ, United Kingdom, <https://clarivate.com/>

⁴ <http://www.cesa-tr.org/Pri.htm>

⁵ <http://www.cesa-tr.org/Miscell.htm>

⁶ <http://www.cesa-tr.org/Memoirs.htm>

⁷ <http://www.cesa-tr.org/CDF.htm>

⁸ <http://www.cesa-tr.org/Icon.htm>

⁹ <http://www.cesa-tr.org/CPAL.htm>

¹⁰ <http://www.cesa-tr.org/Cesanews.htm>

¹¹ <http://www.cesa-tr.org/Cesabooks.htm>